

BETT MANN (B.)



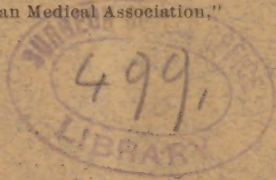
The Treatment of Blennorrhœa Neonatorum.

Read before the Illinois State Medical Society, May, 1893.

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THE TREATMENT OF BLENNORRHŒA NEONATORUM.

When we consider that from 20 to 40 per cent. of our blind must attribute their affliction to blennorrhœa neonatorum, we are forced to admit one of two things: Either the treatment is not understood or it is not intelligently carried out by a great number of physicians.

Our medical journals during the last decade teem with articles devoted to curative and prophylactic measures of this disease.

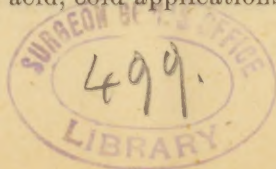
Every physician at this date has been sufficiently impressed with the importance of employing preventive treatment and of the gravity of blennorrhœa neonatorum.

Notwithstanding these long continued and oft repeated instructions as to the method of treatment, numerous children are still deprived of their vision. Many cases of blennorrhœa are lost.

I have lately seen, in consultation at my office, about a dozen babies where one or both corneæ were destroyed when brought to my notice.

An analysis of these and numerous other cases sent to me by physicians have convinced me that the majority of practitioners and a number of oculists are yet unacquainted with the therapeutic measures in force. Many of my colleagues had followed as they informed me, either in person or by letter, the instructions as laid down in various textbooks devoted to this subject.

The routine treatment where any was attempted was the following: Frequent cleansing of the eyes with a weak solution of boric acid, cold applications



to the lids, local applications once daily to the under surface of the lids of a solution of nitrate of silver varying in strength from $\frac{1}{2}$ to 2 per cent. Instillation of atropine as soon as ulceration of the cornea appeared and then consultation with the specialist before and after perforation of the cornea.

I have made it a special point to read critically the chapter devoted to blennorrhœa in a number of textbooks and essays, and will here record the views of a few.

Noyes (edition 1890 says) as soon as the secretion grows a little thicker and the swelling of the lids grow less, so that they can be everted, we are to resort to nitrate of silver in varying strength of from 1 to 2 per cent, (gr. v and x to 3i).

This is not to be dropped between the lids because it will endanger the cornea. Later on he recommends the use of the mitigated stick by skillful hands, "in the later stages of the disease when papilliform swelling is extreme and the secretion is very thick."

In gonorrhœal ophthalmia he also advises the use of a 1 or 2 per cent. solution. He discountenances strong solutions in these words: "Formerly much stronger solutions were in vogue but they are not to be recommended, except in extreme cases, viz: 4 per cent."

Edward Meyer of Paris (edition 1887) recommends nitrate of silver 8 grs. to 1, but has preference for the mitigated stick; the same treatment holds good for gonorrhœal ophthalmia.

C. E. de Schweinitz 1892, also favors the use of a 1 or 2 per cent. solution. In severe cases the mitigated stick and even the solid pencil of nitrate of silver may be employed, great care being taken to neutralize the excess with a solution of common salt.

With reference to gonorrhœal ophthalmia, he is quite decided in his utterances: "At the proper stage nitrate of silver is the best remedy. It is rarely neces-

sary to employ it in a strength greater than ten to fifteen grains to the ounce, but when granulations of the conjunctiva become exuberant the mitigated or solid stick at times alone will control the process."

Schweiger of Berlin, recommends local application of $\frac{1}{2}$ per cent. solution of argentum nitricum at first, then later 2 and 3 per cent. He deprecates the use of the mitigated stick fearing the cicatrices it might produce.

Saemisch, Vol. 4, (Graefe and Saemisch Handbuch der Augenheilkunde), has written an exhaustive treatise on this subject. He also favors weak solutions of silver nitrate first and in aggravated cases the stick. He emphasizes the fact that the latter application be made to the retrotarsal fold only.

Fuch's instructions are rather meager; he mentions only the 2 per cent. solution of silver nitrate which is to be applied twice a day when the discharge is profuse.

Theobald Woods, (Reference Handbuch of the Medical Sciences) advocates a solution varying in strength from 2 to 4 per cent.

Schmidt-Rimpler's views almost coincide with those already given of the various writers here and abroad, regarding the strength of silver nitrate to be applied to the inner surface of the lids. The large majority are contented with a 2 per cent. solution and the mitigated stick in the extreme cases.

Solutions of this strength when used by competent hands will usually answer the purpose. The directions are not ordinarily explicit enough for the general practitioner. They suffice for a specialist who can take a great deal for granted.

Gentlemen, you will agree with me that a certain amount of skill is required to evert the lids and much more is requisite to bring the upper retrotarsal fold to view. Therein lies the solution of the problem. The remedy must be brought to bear on the cul de sac, that lax conjunctival tissue full of folds

which is reflected from the upper lid margins on to the eyeball.

Two per cent. solutions applied to the tarsal part of the lids will not answer the purpose in most cases.

The practitioner makes the application to this part of the conjunctiva with the conviction that he has conformed to the rules laid down by writers. Soon the cornea becomes affected and the specialist is called in.

The use of the mitigated stick is a dangerous remedy to the inexperienced. If not carefully applied sloughs may result causing great loss of tissue and formation of cicatricial bands.

Again, it has been my experience that a 2 per cent. solution is often not nearly strong enough to control the purulent discharge. I have repeatedly treated neglected cases when nothing weaker than a 10 or 15 per cent. solution would answer the purpose.

The main object of this paper is to emphatically denounce the idea which prevails among the fraternity, that a 2 per cent. solution of silver is a specific for all cases of blennorrhœa neonatorum.

The erroneous impression is largely due to the meager instructions of the textbook writers, and to the fears which have been instilled into the minds of physicians through teachers, of the deleterious action on the cornea of a stronger solution than that of 2 per cent.

These precepts have fallen on fertile ground and have so imbued the mind with the dangers attending a strong solution of silver nitrate that even a weak one is used with trepidation.

The treatment of this disease does not only consist in using nitrate of silver, but in knowing when and how to use it.

To understand this more fully we must briefly consider the various stages and forms of blennorrhœa. Two great varieties are recognized: The mild type characterized by a slight muco-purulent discharge and little swelling of the conjunctiva; and

the other more severe form showing profuse discharge of creamy pus associated with a severe swelling of the conjunctiva and lids.

Both have a first stage of conjunctival congestion and swelling with no purulent discharge, and a second stage which only then exists, when a purulent secretion is established beyond a doubt.

The milder form of the trouble is readily controlled by cold applications to the lids and in the second stage by the instillation of saturated solutions of boracic acid every two hours, and a daily application to the everted lids and cul de sac of a 1 or 2 per cent. solution of silver nitrate.

The more virulent form requires more energetic measures. During the first stage caustics *must never be employed*; they are absolutely injurious to the swollen glistening conjunctiva.

The physician must content himself with explicit directions to the nurse to cleanse the parts every hour or two with a solution of bichloride of mercury 1 to 5,000, and a saturated solution of boric acid. Cold cloths taken from a cake of ice must be placed on the eyes day and night and changed as soon as warm. A point of great importance is to warn the attendant not to injure the cornea with pipette or brush. If the cornea is denuded of epithelium the least degree, a means of entrance is opened to the germs which rapidly multiply and cause ulceration of the tissue. When the purulent secretion begins then, too, begins the active work of the physician. The child's head must be taken between the knees, covered with a towel, the lower lid everted and the cornea covered with the upper one.

It is wiser to begin with the application of a 2 per cent. solution of nitrate of silver. This must remain in contact with the conjunctiva until it changes to a milky, bluish appearance. The excess of fluid is then removed with a brush dipped in water. If the solution employed should be a stronger one, it will

be well to neutralize it by washing the parts with a weak solution of salt water.

The upper lid is treated in the same manner, the cornea being protected by the drawn up lower lid.

Of paramount importance is the retrotarsal fold. The rolls of swollen conjunctiva in this seat of danger must be conscientiously cleansed and similarly treated.

If this strength of nitrate of silver solution does not decrease the amount of discharge a stronger 6 per cent. must be employed the next day, and so we must be guided as to the strength of the application by the quantity of secretion.

I have frequently employed in dangerous cases, in rapid succession an 8, 10 and 15 per cent. solution and feel convinced that the energetic employment of these powerful measures, and these alone saved the cornea.

If great chemosis exists at the corneo-scleral margin, no delay in scarifying these parts should be countenanced. Prompt, decisive action is essential in the various stages of this disease.

The use of caustics is not recommended oftener than once every twenty-four hours, because it requires that length of time for the tissue changes to be effected.

Vaseline has of late years been much employed as a valuable lubricant to the inflamed conjunctiva, and as facilitating the removal of the secretion from the folds of the mucous membrane.

As soon as the swelling visibly subsides and the discharge decreases I invariably employ hot fomentations; my object now being to hasten the elimination of broken down material and to favor a more rapid resolution. The hot applications are made two hours in the morning and two in the afternoon, the instillation of antiseptic measures being continued in the meantime. Ulcerations of the cornea require the additional use of atropine and in case they are of a progressive character, application of a 95 per

cent. solution of carbolic acid to the surface of the ulcer or the actual cautery.

A paper of this nature would hardly be complete were not mention made of the well known preventive measures. I am often astonished at the indifference shown by the profession to these thoroughly tested and efficient means.

The statistics of the largest hospitals in the world have proved their use beyond a shadow of a doubt. I will not tire you by repeating this long list of tables but will content myself by assuring you that the percentage of infection of the eyes of newborn children has fallen in institutes, where these measures are systematically enforced, from 5 and 10 per cent. to a fraction of 1 per cent.

My friend Dr. Mitchell, kindly compiled the obstetrical cases which were found in the Cook county hospital during a period of five years from 1883 to October, 1888, 1,232 cases. Only two cases of blennorrhœa neonatorum are recorded. During most of the service Houseman's method only was employed and it was found sufficient.

Houseman's method which consists of vaginal douches of a 1 per cent. solution of carbolic acid or a weak solution of bichloride before labor is a simple way of rendering the genital organs aseptic.

Every prospective mother should be instructed as to this method by her accoucher. A double precaution is Crede's method. A single drop of a 2 per cent. solution of nitrate of silver is to be instilled into the eyes of every newborn child.

I feel confident that we specialists would be called to attend fewer cases of blennorrhœa neonatorum if these rules were universally enforced, and I am equally convinced that fewer cases of ulceration and loss of the cornea would ensue if the use of a stronger solution of argentic nitricum at times were advocated by teachers and writers.

